Tecomatlana (Hooperella) vesperuginis (Brennan and Jones, 1960)

Thirteen larvae off 2 *Carollia perspicillata*, Zandery, 7 January and 1 February 1970; 2 off *C. perspicillata*, Brownsweg, 10 February 1970; 2 from wing membrane of *Saccopteryx bilineata*, Lelydorp, 26 February 1970; 6 from ventral wing membrane of 3 *Glossophaga soricina*, Brokopondo, 2 February 1970.

The following chiggers of Surinam, not listed here, were recorded recently by Brennan (1970).

Arisocerus amapensis Brennan, 1970
Boshkerria punctata (Boshell and Kerr, 1942)
Colicus iconi Brennan, 1970
Colicus oblonga (Fauran, 1959)
Eutrombicula alfreddugesi (Oudemans, 1910), *tropica* form of Ewing, 1925
Pseudoschoengastia tricosa (Brennan and Jones, 1961)
Tecomatlana (Hooperella) saccopteryx (Brennan and Jones, 1960)
Trombicula (s. l.) *palmigera* Fauran, 1960

Literature Cited

Brennan, J. M. 1970. A small collection of chiggers from Surinam (Acarina: Trombiculidae). *Bull. So. Calif. Acad. Sci.* 69: 32-37.

Fauran, P. 1960. Description de quatre nouvelles especes et d'une nouvelle sous espece de trombiculides de Guyane française. *Arch. Inst. Pasteur Guyane franç. et Inini*, No. 459, 20 p.

Fuller, H. S. 1952. The mite larvae of the family Trombiculidae in the Oudemans collection: Taxonomy and medical importance. *Zoologische Verhandelingen*, No. 18. E. J. Brill, Leiden. 261 p.

Geest, J. C. and R. B. Loomis. 1968. Chiggers of the genus *Pseudoschoengastia* (Acarina: Trombiculidae) from Costa Rica. *Los Angeles Co. Mus. Nat. Hist., Contrib. Sci.* No. 150: 1-49.

Jenkins, D. W. 1949. Trombiculid mites affecting man. IV. Revision of *Eutrombicula* in the American hemisphere. *Ann. Ent. Soc. Amer.* 42: 289-318.

Michener, C. D. 1946. Observations on the habits and life history of a chigger mite, *Eutrombicula batatas* (Acarina: Trombiculinae). *Ann. Ent. Soc. Amer.* 39: 101-118.

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VARIATION AND GEOGRAPHIC DISTRIBUTION IN SOME ARGENTINE AND CHILEAN OSMYLIDAE, WITH A NEW SPECIES OF *KEMPYNUS* (NEUROPTERA).

Phillip A. Adams[1]

Abstract: A similar color variation, which consists in longitudinally streaked wings, occurs in *Kempynus falcatus* Navás and *Phymatosmylus caprorum* Adams. These species are sympatric with the newly described *Kempynus crenatus* on the western slope of the Andes between 34°30′ S and 40° S, but further south in Chiloé and Aysén, *K. falcatus* occurs on the coast.

The material discussed below was not available for inclusion in my recent paper on South American Osmylidae (Adams, 1969). *Kempynus* is of particular interest because it includes species from Australia-New Zealand and South American (Kimmins, 1940). I am grateful to Ellis MacLeod of the University of Illinois, Urbana, for the loan of specimens and for helpful comments.

Kempynus crenatus, new species
Figures 1; 2A, C, E-H

Description: Head pale with the following fuscous marks: dark border of antennal sockets confluent with large frontoclypeal triangle which has apex at anterior clypeal margin, spots anterior to anterior tentorial pits, borders of ocelli and vertex scars. Mouthparts fuscous, antennae pale. Pronotum pale, dark dotted, four black spots on transverse furrow. Mesonotum pale, dark-punctate, prescutum with

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Figure 1. Kempynus crenatus, wing venation.

four dark marks, black triangle on prescutal-scutal suture, scutum and scutellum black laterally. Pleurae irregularly variegated, coxae fuscous, fore and mid-femora with pair of subapical central dark marks and dark dorsoapical spot, hind femora paler. Tibiae pale, dark bands at base, middle and apex. Tarsi brownish, apical tarsomere dark. Female fore coxa with an anterolateral field of numerous short pedestalled setae. Wing venation as in Figure 1. MP2 of forewing dichotomously branched basad of union of CuA and CuP, posterior fork pectinate. Malculations brown.

Abdomen fuscous at tip; setal bases infuscate. External male abdominal apex much as in *K. incisus* (Kimmins, 1940). Gonocoxites (Fig. 2A) resemble those of *K. falcatus* (Fig. 2B), but are more elongate. Hypandrium internum (Fig. 2C) more elongate than in *K. falcatus*. Female abdominal apex much as in *K. falcatus*, eighth sternite (Fig. 2F, G) setose anterolaterally, posterior lobes shorter and more rounded than in *falcatus*. Spermathecae slightly bent, constricted in middle, basal portion spherical; in one specimen, the spermathecae are ovoid (Fig. 2E). Colleterial gland reservoir (Fig. 2H, cgr) and bulb slightly longer than in *falcatus*, and bursal gland duct (bgd) less tortuous.

Measurements (mm). Forewing length, ♀, 28.0, 28.5, 29.0; ♂ 26.0. Antenna length, ♀, 7.0, 8.0, 8.3; ♂ 7.5.

Holotype. Chile, Prov. Ñuble, Cordilleras Chillán, Las Trancas, 12 km E. Recinto, 1-10 Dec. 1964, ♀, leg. L. E. Peña, Museum of Comparative Zoology, Harvard [ca. 800 mt., 71°37′ W, 36°51′ S].

Allotype. Argentina, Prov. Neuquén, Pucará, Parque Nacional Lanín, Jan. 1951, ♂, leg. S. S. Schajovskoy, Museum of Comparative Zoology, Harvard (ex coll. E. G. MacLeod).

Paratypes. 1 ♀, same data as holotype, E. G. MacLeod collection. Argentina, Prov. Neuquén, Pucará, 30 Nov. 1959, ♀, purch. ex F. H. Walz, P. Adams collection.

Remarks. This species differs from *falcatus* in its oval wing shape, and shape of spermathecae. In *K. longipennis*, the wings are similarly shaped, but the wingtips are somewhat more acute, MP2 forks pectinately, and the marginal pale areas of *K. crenatus* are absent. In all the other species of

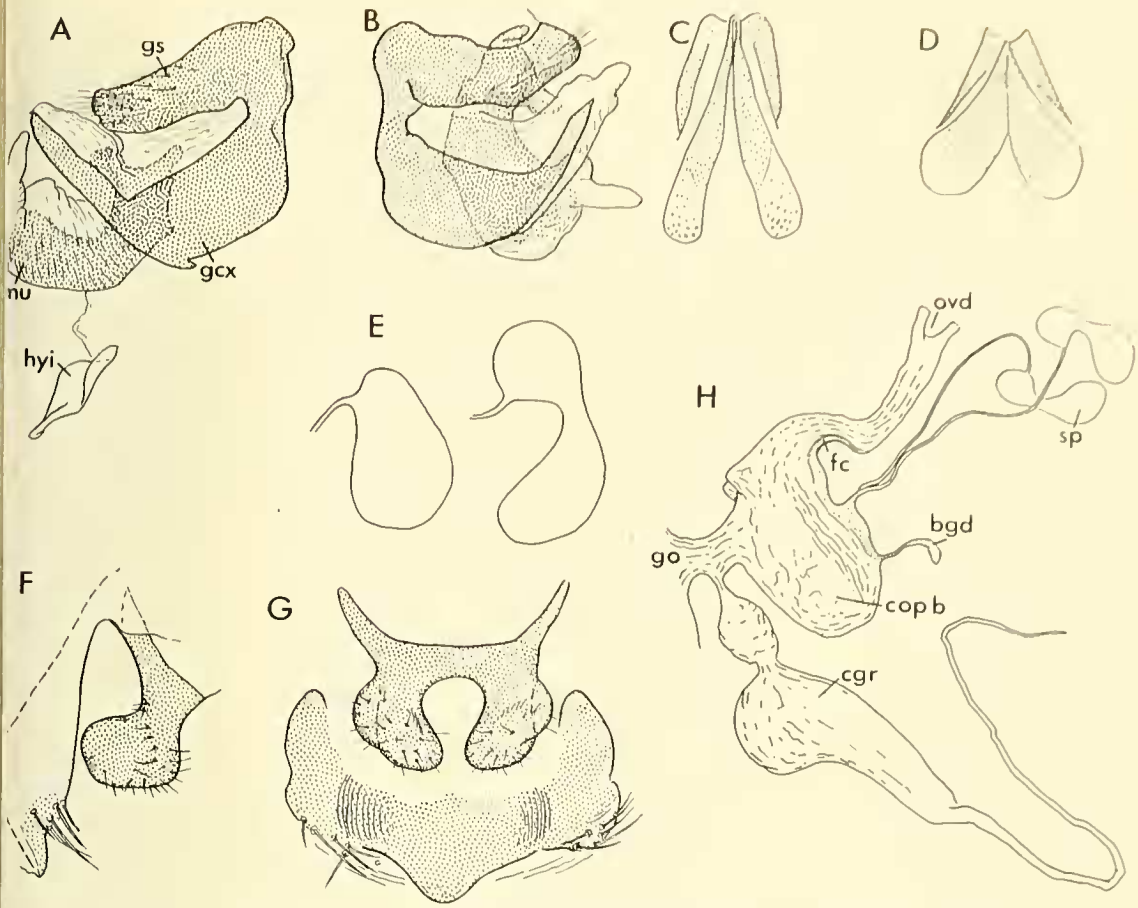


Figure 2. Reproductive structures. A, C, E-H, *Kempynus crenatus*. B, D, *K. falcatus*. A, B, genital armatures of males, lateral view. C, D, hypandrium internum. E, spermathecae. F, eighth abdominal sternite of female, lateral view. G, same, ventral view. H, female reproductive system viewed from the left side, abdominal apex downward.

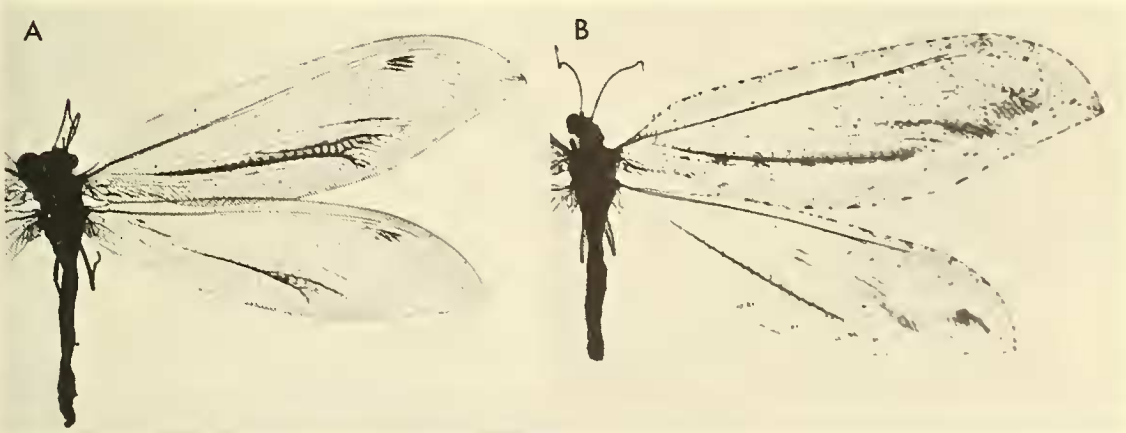


Figure 3. Striped wing pattern: A, *Phymatosmylus caprorum*; B, *Kempynus falcatus*.

Kempynus the apical projections of the female eighth sternite are more slender and more separated basally.

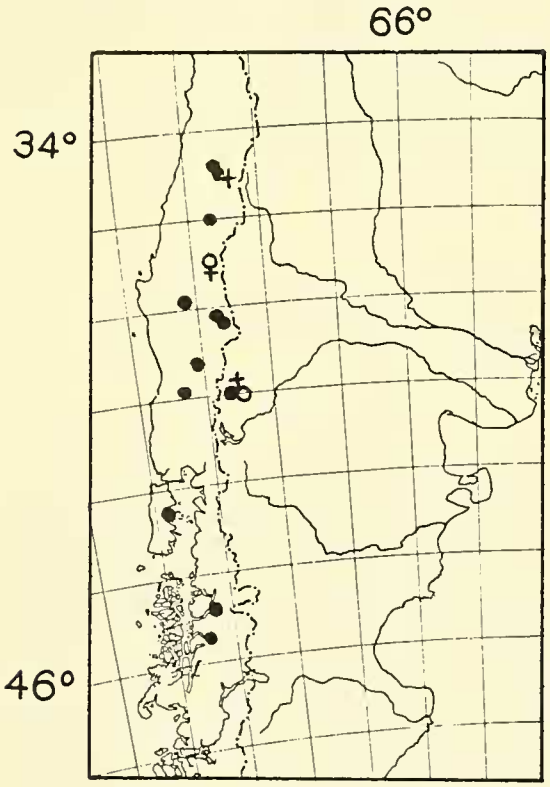
Kempynus falcatus Navás
Figures 2B, D; 3B

Kempynus falcatus Navás 1912, 1928, 1930, 1936, Kimmins, 1949. Type: ♀, Chile, Mulchen [Bio Bio, 37°44′ S, 72°15′ W], Jan. 1902, leg. H.J. Elwes, Brit. Mus. (Nat. Hist.), not seen.

Kalosmylus falcatus, Krüger, 1913, 1914.

Remarks. The male genitalia have not previously been described. As Kimmins (1940) noted, these are similar in most species of Kempyninae, and reference to Fig. 2B demonstrates that *K. falcatus* constitutes no exception. Most of the apparent differences from *K. crenatus* are due to positioning. However, the hypandrium internum (Fig. 2D) is broader, with the winglike lobes fused on the midline, while they are separate to the base in *K. crenatus*.

Distribution. The following specimens, unless otherwise noted, are in my collection and were collected by L. E. Peña. *Chile:* Curicó, Buchén, Mar. 1956, ♀, ("farm in preandean foothills"); Curicó, La Jaula (Los Queñes), Andes, 14-18 Feb. 1965, ♂; Linares, Fundo Malcho ("in the high mountains") Dec. 1952, ♀; Malleco Prov., Termas de Tolguaca, 30 km NE Curacautin, 20 Jan. 1959, ♂; Cautin 30 km N Villarica, 1-30 Jan. 1965, 6 ♂ 4 ♀; Chiloé, Dalcahue, Feb. 1954, ♂; Aysen, Pto. Cisnes, Feb. 1961, ♀; Aysén, Rio Maniguales [vic. Puerto Aisén] 27 Jan. 1961, 1♂, 1♀. *Argentina*, Neuquén, Pucará, Parque Nacional Lanín: 31 Nov. 1959, ♀, purch. ex. F. H. Walz; Feb. 1951, ♀, Feb. 1952, ♂, leg. S. S. Schajovskoy, E. G. MacLeod collection.



• *K. FALCATUS* ○ *K. CRENATUS*

+ *P. CAPRORUM*

Figure 4. Known distribution of South American Kempyninae and Stenosmylinae.

Color variation. In my collection are single specimens of *Phymatosmylus caprorum* Adams (Fig. 3A ♀, from Las Trancas, Cord. Chillan, Chile, 1-10 Jan. 1964, L. E. Peña leg.) and *Kempynus falcatus* Navás (Fig. 3B, ♀, 30 km N. Villarica, Prov. Cautín, Chile, 1-30 Jan. 1965, L. E. Peña leg.) which have a dark stripe on each wing instead of the usual mottling. While similar color patterns are common in other Neuroptera (*e.g.* the polystoechotids *Platystoechotes* and *Fontecilla*, and many Myrmeleontidae) they do not ordinarily occur in related Osmylidae (Kimmins, 1940). The capacity to develop similar aberrant color patterns may suggest a closer relationship between these osmylids than indicated by their present taxonomic position. They are now placed in different subfamilies (*Phymatosmylus* in *Stenosmylinae*, *Kempynus* in Kempyninae) although *Phymatosmylus* is regarded as transitional toward Kempyninae (Adams, 1969).

Geographic distribution (Fig. 4). *Kempynus falcatus*, *K. crenatus*, and *Phymatosmylus caprorum* are sympatric along the western slope of the Andes, from about 34°30′ S to 40° S, extending into Argentina in the lake region, where several passes exist at 1200m elevation. All three species have been taken are at Pucará, Lanín National Park, Argentina. Further south, in Chiloé and Aysén, the much commoner *K. falcatus* occurs on the coast, an elevational shift probably related to the cooler climate. Also plotted are localities for *K. falcatus* from Kimmins (1940) and from Navás (1928, 1930).

None of these species appears to be sympatric with *Isostenosmylus*, which has several species in Ecuador, Peru, Bolivia, and Brazil, or with *Paryphosmylus*, with one species in Ecuador.

Seasonal abundance. Combined data from 50 specimens of the three species indicate greatest frequency of capture near the time of the December solstice: November — 7, December — 21, January — 15, February — 6, March — 1.

ABBREVIATIONS

Bcd — bursal gland duct, cgr — colleterial gland reservoir, cop b — copulatory bursa, CuA — cubitus anterior, CuP — cubitus posterior, fc — fertilization canal, gcx — gonocoxite, go — genital opening, gs — gonarcus, hyi — hypandrium internum, MP — media posterior, mu — mediuncus, ovd — oviduct, sp — spermatheca.

Literature Cited

Adams, P. A. 1969. A new genus and species of Osmylidae (Neuroptera) from Chile and Argentina, with a discussion of planipennian genitalic homologies. *Postilla*, 141: 1-11.

Kimmins, D. E. 1940. A revision of the osmylid subfamilies Stenosmylinae and Kalosmylinae (Neuroptera). *Novitates Zoologicae*, 42: 165-201, pl. 1-8.

Krüger, L. 1913, 1914. Beiträge zu einer Monographie der Neuropteren-Familie der Osmyliden. *Stettiner entomologische Zeitung*, 74: 3-294; 75: 3-130.

Navás, L. 1912. Insectos neurópteros nuevos ó poco conocidos. *Memorias de la Real Academia de Ciencias y Artes de Barcelona*, 10: 135-202.

———. 1928. Insectos neotrópicos. 4a serie. *Revista Chilena Historia Natural*, 32: 106-128.

———. 1930. Algunos insectos de Chile, 4a serie. *Revista Chilena Historia Natural*, 34: 350-366.

———. 1936. Insectos neurópteros de Chile, poco conocidos. *Revista Chilena Historia Natural*, 40: 179-181.

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